

FIG. 1A

FIG. 1B-1

| | |
|---|------|
| TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG | 684 |
| W N F L E S F Y F C F I S L S T I G L | 228 |
| GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT | 741 |
| G D Y V P G E G Y N Q K F R E L Y K I | 247 |
| GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC | 798 |
| G I T C Y L L L G L I A M L V V L E T | 266 |
| TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC | 855 |
| F C E L H E L K K F R K M F Y V K K D | 285 |
| AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC | 912 |
| K D E D Q V H I I E H D Q L S F S S I | 304 |
| ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC | 969 |
| T D Q A A G M K E D Q K Q N E P F V A | 323 |
| ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA gcgtaggatttgttcatt | 1030 |
| T Q S S A C V D G P A N H * | 337 |
| atgctagagcaccaggggtcaggggtgcaaggaagaggcttaagtatgttcattttttatcagaatgcaaaagcgaaaa | 1106 |
| ttatgtcactttaagaaatagctactgtttgcaatgtcttattaaaaacaacaaaaaagacacatggaacaaag | 1182 |
| aagctgtgacccagcaggatgtctaataatgtgaggaaatgagatgtccacctaataatcatatgtgacaaaatta | 1258 |
| tctcgaccttacataggaggagaataacttgaagcagtatgctgctgtggttagaagcagattttatacttttaact | 1334 |
| ggaaactttgggggttgcathtagatcatttagctgatggctaaatagcaaaatttatatttagaagcaaaaaaaa | 1410 |
| aaagcatagagatgtgtttataaatagggttatgtgtactggtttgcatgtaccaccccaaatgattattttg | 1486 |
| gagaatctaagtcacaaactcactatttataatgcataggtaaccattaactatgtacatataaagtataaatatgtt | 1562 |
| tatattctgtacatatggtttaggtcaccagatcctagtgtagttctgaaactaagactatagatattttgtttct | 1638 |
| tttgatttctctttataactaaagaatccagagttgctacaataaaataaaggggaataataaaaaaaaaaaaaa | 1712 |

FIG. 1B-2

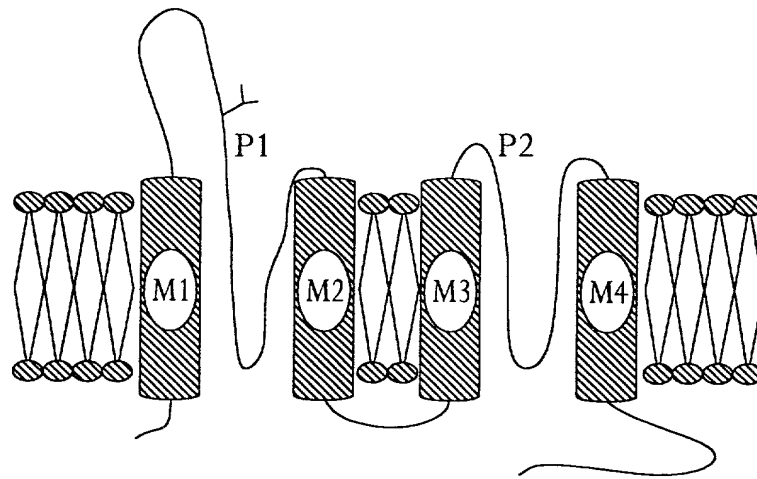
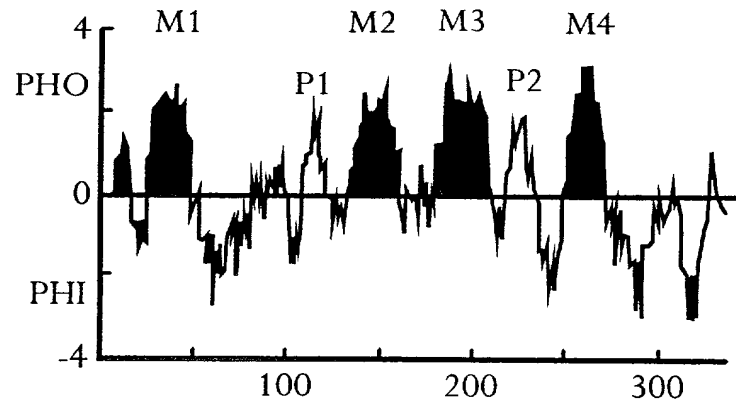


FIG. 1C

| | 1 | 14 | 27 |
|-----------|------------------------------|----|----|
| TWIK-1 P1 | ETSALEFFASTVLSTTGYGHTVPLSDGG | | |
| TWIK-1 P2 | ELESFYFCFISLSTTGLCDYVPGEYN | | |
| TOK1 P2 | YFNCIYFCFLCLLTGTYGDIAPRTGAG | | |
| TOK1 P1 | YGNALYECTVSLLTVGLGDTLPKSVGA | | |
| Slo | YWTICVYFLIVTMSTVGYGDVYCETVLG | | |
| Shaker | IPDAFWWAVVIMTTVGYGDMTPVGFWG | | |
| Shab | IPEAFWWAGITMTTVGYGDIPTTALG | | |
| Shal | IPAAFWYTIIVTMTILGYGDMVPETIAG | | |
| Shaw | IPLGLWVALVTMTTVGYGDMAPKTYIG | | |
| KAT1 | YVTALYWSITTLTTTGYGDFHAENPRE | | |
| AKT1 | YVTSMYWSITTLTTVGYGDIHPVNTKE | | |
| eag | YVTALYFTMTCTMTSVGFGNVAAETDNE | | |
| ROMK1 | MTSAFLFSLETQVTIGYGFRFVTEQCA | | |
| IRK1 | ETAALFSLIETOTTIGYGFRCVTDECP | | |
| GIRK1 | EPSAFLFFIETEATIGYGYRYITDKCP | | |

FIG. 2A

FIG. 2B

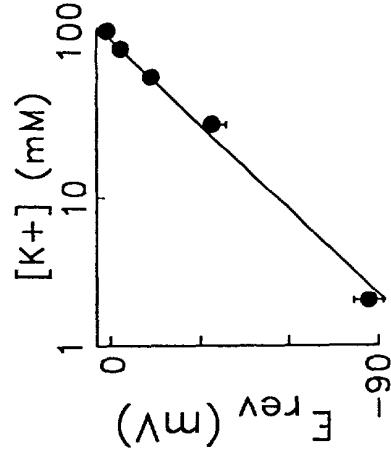


FIG. 3A

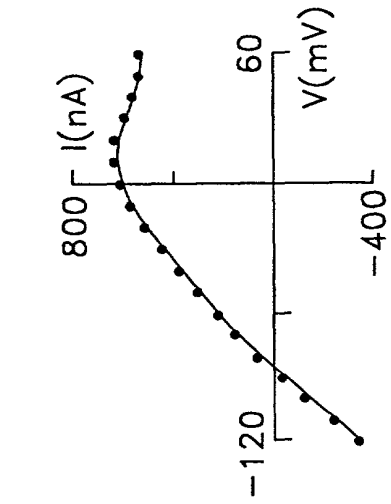


FIG. 3B

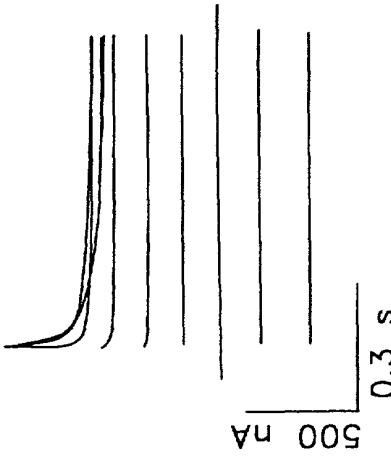


FIG. 3C

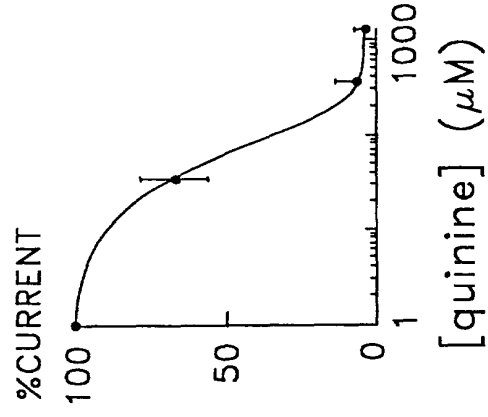


FIG. 3D

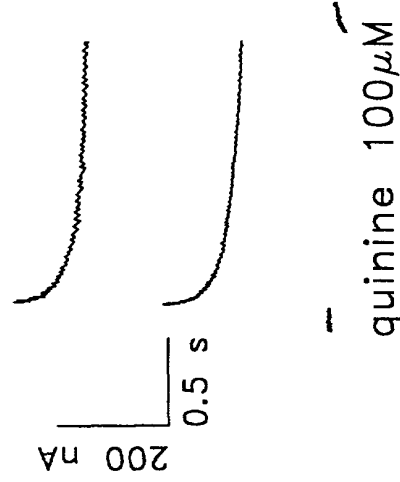


FIG. 3E

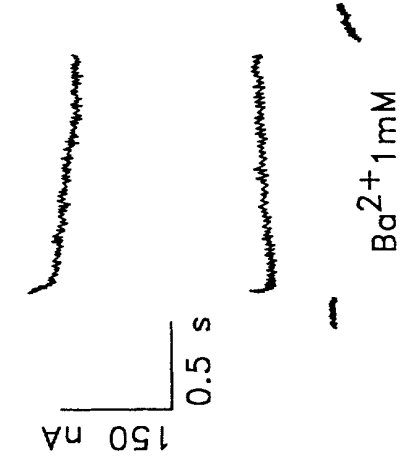


FIG. 3F

FIG. 4A

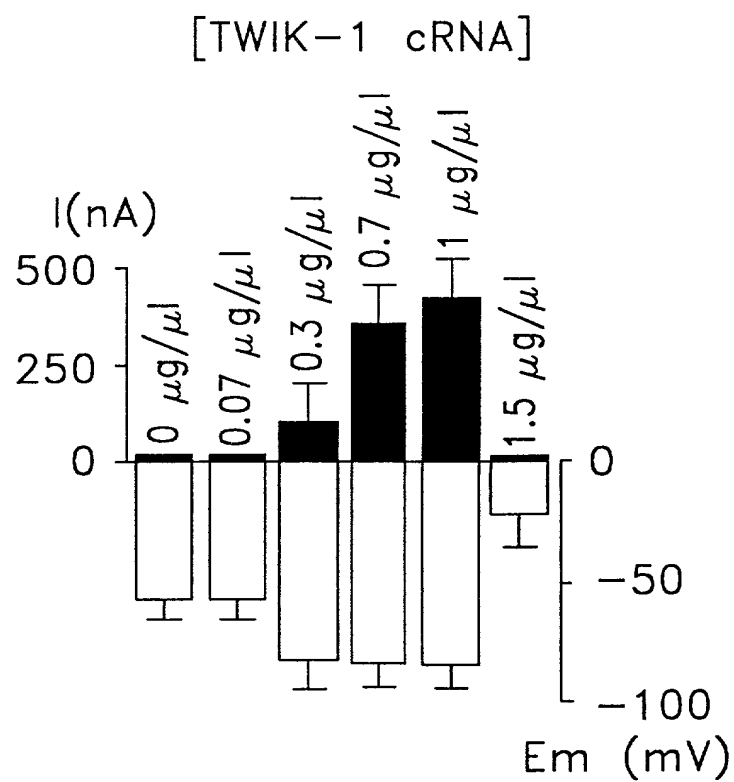


FIG. 4B

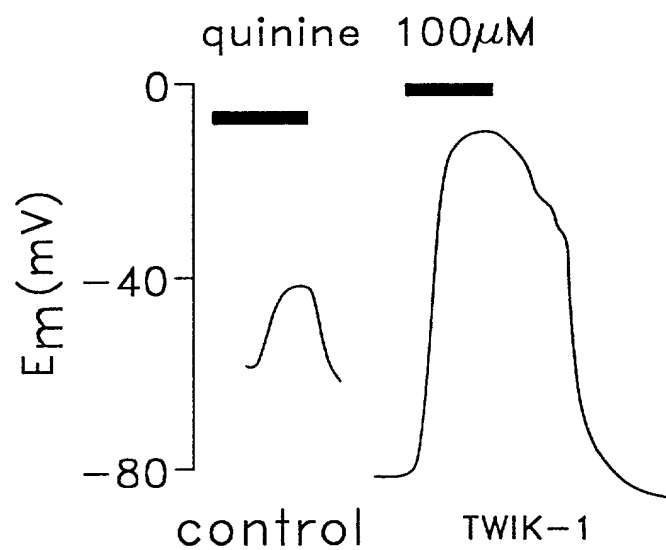
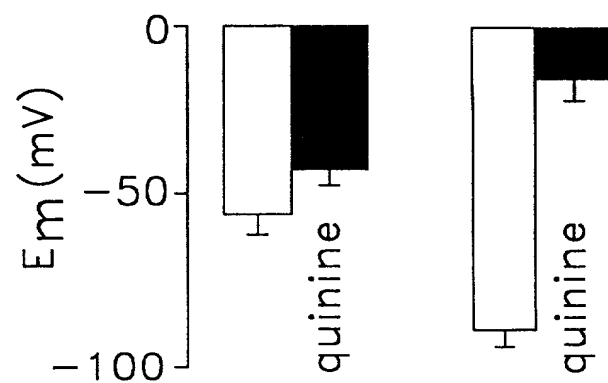


FIG. 4C



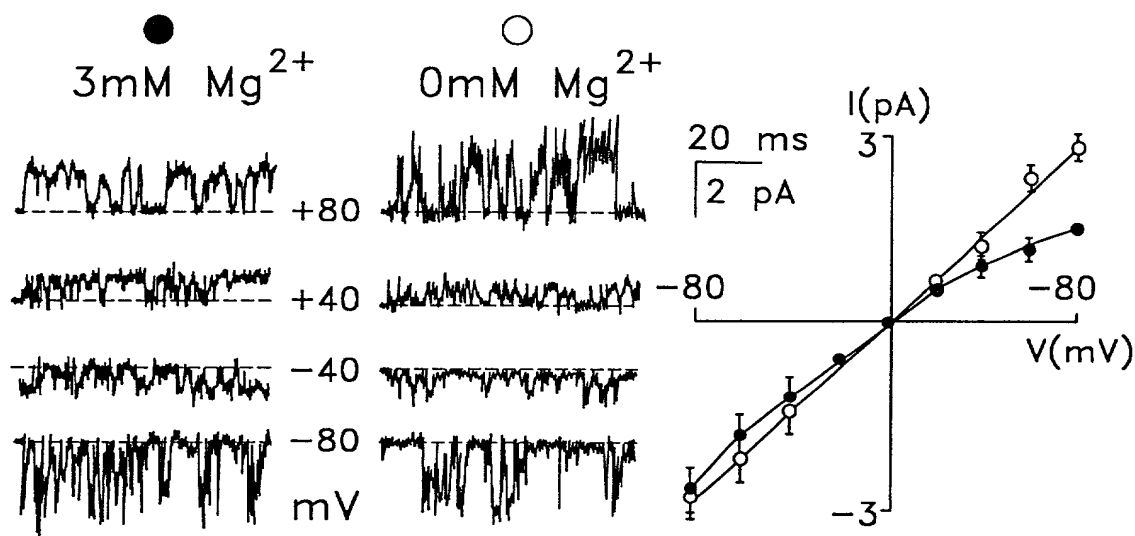


FIG. 5A

FIG. 5B

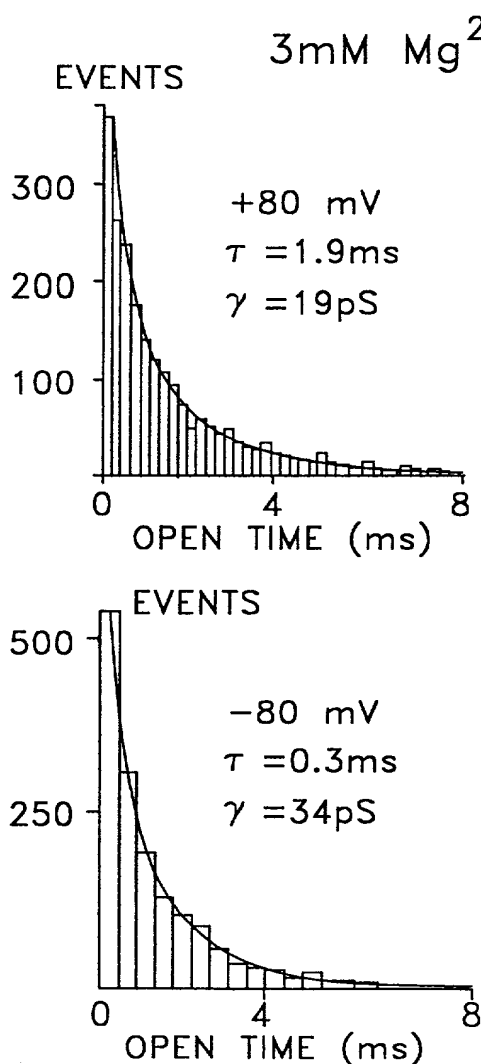


FIG. 5C

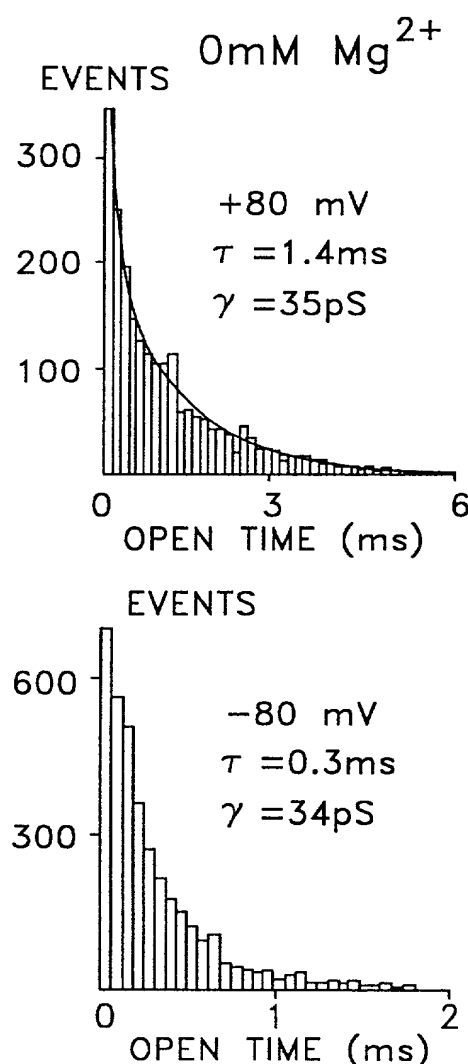


FIG. 5D

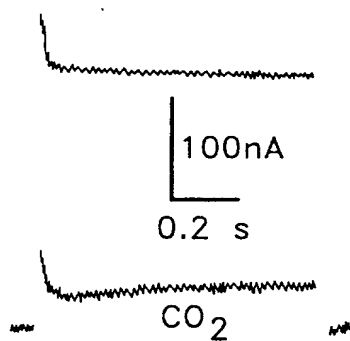


FIG. 6A

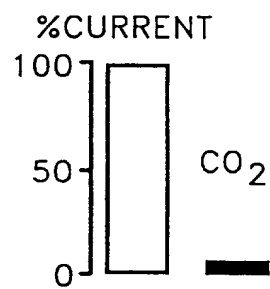


FIG. 6B

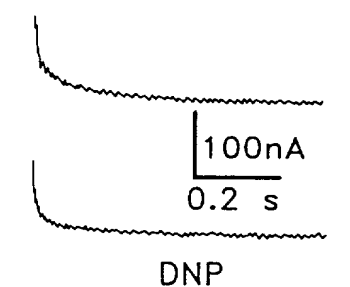


FIG. 6C

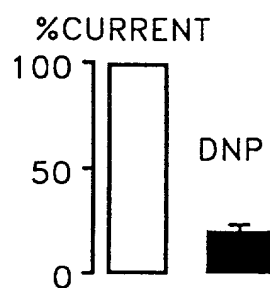


FIG. 6D

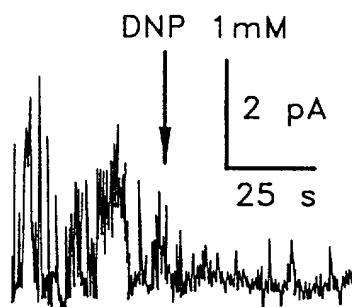


FIG. 6E

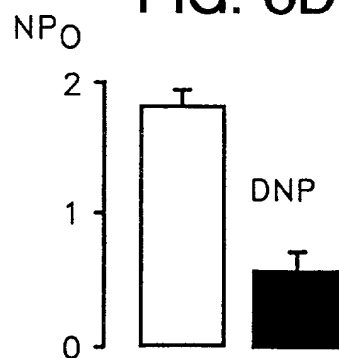


FIG. 6F

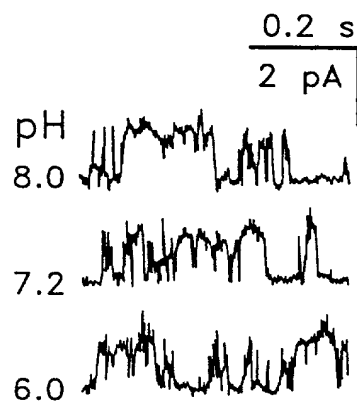


FIG. 6G

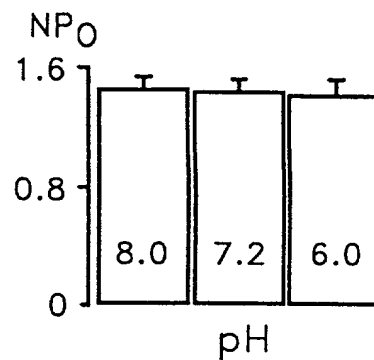


FIG. 6H

1201-CIP-DIV-00

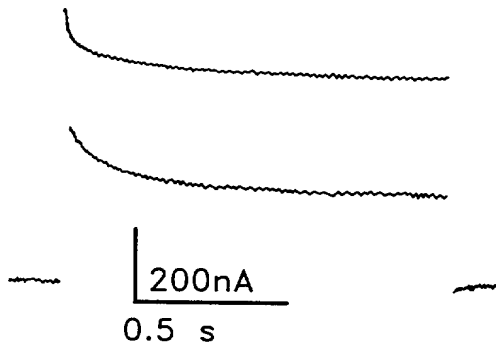


FIG. 7A

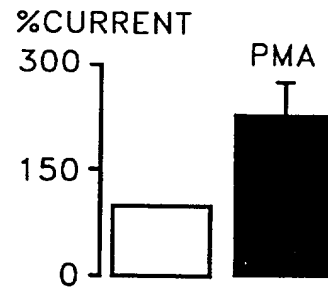


FIG. 7B

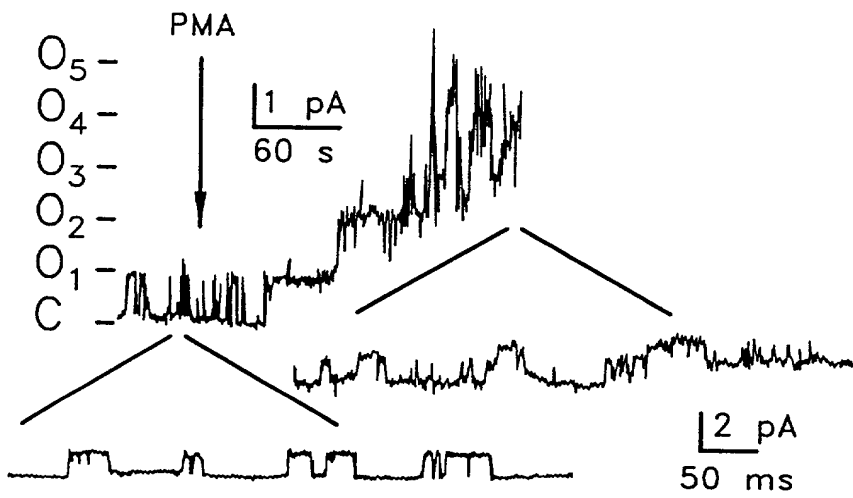


FIG. 7C

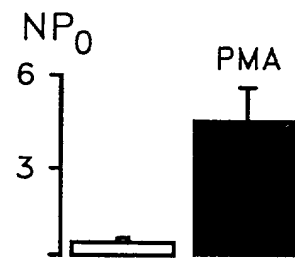


FIG. 7D

tgccctgcgcggatagcggcgagcgcagccatgccccagggcgcctccg -77
 gggcagcagcagcggcgggccggggccgatgcgcggggccggggcgccggggggccggcgggcgcccgggcgggacg -1

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ATG | AAG | CGG | CAG | AAC | GTG | CGC | ACG | CTG | GCG | CTC | ATC | GTG | TGC | ACC | TTC | ACC | TAC | CTG | 57 |
| M | K | R | Q | N | V | R | T | L | A | L | I | V | C | T | F | T | Y | L | 19 |
| | | | E | N | V | R | T | L | A | L | I | V | C | T | F | T | Y | L | |
| CTG | GTG | GGC | GCC | GCG | GTC | TTC | GAC | GCG | CTG | GAG | TCG | GAG | CCC | GAG | CTG | ATC | GAG | CGG | 114 |
| L | V | G | A | A | V | F | D | A | L | E | S | E | P | E | L | I | E | R | 38 |
| L | V | G | A | A | V | F | D | A | L | E | S | E | P | E | M | I | E | R | |
| CAG | CGG | CTG | GAG | CTG | CGG | CAG | CAG | GAG | CTG | CGG | GCG | CGC | TAC | AAC | CTC | AGC | CAG | GGC | 171 |
| Q | R | L | E | L | R | Q | Q | E | L | R | A | R | Y | N | L | S | Q | G | 57 |
| Q | R | L | E | L | R | Q | L | E | L | R | A | R | Y | N | L | S | E | G | |
| | | | | | | | | | | | | | | * | | | | | |
| GGC | TAC | GAG | GAG | CTG | GAG | CGC | GTC | GTG | CTG | CGC | CTC | AAG | CCG | CAC | AAG | GCC | GGC | GTG | 228 |
| G | Y | E | E | L | E | R | V | V | L | R | L | K | P | H | K | A | G | V | 76 |
| G | Y | E | E | L | E | R | V | V | L | R | L | K | P | H | K | A | G | V | |
| CAG | TGG | CGC | TTC | GCC | GGC | TCC | TTC | TAC | TTC | GCC | ATC | ACC | GTC | ATC | ACC | ACC | ATC | GGC | 285 |
| Q | W | R | F | A | G | S | F | Y | F | A | I | T | V | I | T | T | I | G | 95 |
| Q | W | R | F | A | G | S | F | Y | F | A | I | T | V | I | T | T | I | G | |
| TAC | GGG | CAC | GCG | GCA | CCC | AGC | ACG | GAT | GGC | GGC | AAG | GTG | TTC | TGC | ATG | TTC | TAC | GCG | 342 |
| Y | G | H | A | A | P | S | T | D | G | G | K | V | F | C | M | F | Y | A | 114 |
| Y | G | H | A | A | P | S | T | D | G | G | K | V | F | C | M | F | Y | A | |
| CTG | CTG | GGC | ATC | CCG | CTC | ACG | CTC | GTC | ATG | TTC | CAG | AGC | CTG | GGC | GAG | CGC | ATC | AAC | 399 |
| L | L | G | I | P | L | T | L | V | M | F | Q | S | L | G | E | R | I | N | 133 |
| L | L | G | I | P | L | T | L | I | M | F | Q | S | L | G | E | R | I | N | |
| ACC | TTG | GTG | AGG | TAC | CTG | CTG | CAC | CGC | GCC | AAG | AAG | GGG | CTG | GGC | ATG | CGG | CGC | GCC | 456 |
| T | L | V | R | Y | L | L | H | R | A | K | K | G | L | G | M | R | R | A | 152 |
| T | E | V | R | Y | L | L | H | R | A | K | R | G | L | G | M | R | H | A | |
| GAC | GTG | TCC | ATG | GCC | AAC | ATG | GTG | CTC | ATC | GGC | TTC | TTC | TCG | TGC | ATC | AGC | ACG | CTG | 513 |
| D | V | S | M | A | N | M | V | L | I | G | F | F | S | C | I | S | T | L | 171 |
| E | V | S | M | A | N | M | V | L | I | G | F | V | S | C | I | S | T | L | |
| TGC | ATC | GGC | GCC | GCC | GCC | TTC | TCC | CAC | TAC | GAG | CAC | TGG | ACC | TTC | TTC | CAG | GCC | TAC | 570 |
| C | I | G | A | A | A | F | S | H | Y | E | H | W | T | F | F | Q | A | Y | 190 |
| C | I | G | A | A | A | F | S | Y | Y | E | R | W | T | F | F | Q | A | Y | |
| TAC | TAC | TGC | TTC | ATC | ACC | CTC | ACC | ACC | ATC | GGC | TTC | GGC | GAC | TAC | GTG | GCG | CTG | CAG | 627 |
| Y | Y | C | F | I | T | L | T | T | I | G | F | G | D | Y | V | A | L | Q | 209 |
| Y | Y | C | F | I | T | L | T | T | I | G | F | G | D | Y | V | A | L | Q | |
| AAG | GAC | CAG | GCC | CTG | CAG | ACG | CAG | CCG | CAG | TAC | GTG | GCC | TTC | AGC | TTC | GTC | TAC | ATC | 684 |
| K | D | Q | A | L | Q | T | Q | P | Q | Y | V | A | F | S | F | V | Y | I | 228 |
| K | D | Q | A | L | Q | T | Q | P | Q | Y | V | A | F | S | F | V | Y | I | |
| CTT | ACG | GGC | CTC | ACG | GTC | ATC | GGC | GCC | TTC | CTC | AAC | CTC | GTG | GTG | CTG | CGC | TTC | ATG | 741 |
| L | T | G | L | T | V | I | G | A | F | L | N | L | V | V | L | R | F | M | 247 |
| L | T | G | L | T | V | I | G | A | F | L | N | L | V | V | L | R | F | M | |

FIG. 8A

| | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------------|-----|-----|-----|------|
| ACC | ATG | AAC | GCC | GAG | GAC | GAG | AAG | CGC | GAC | GCC | GAG | CAC | CGC | GCG | CTG | CTC | ACG | CGC | 798 |
| T | M | N | A | E | D | E | K | R | D | A | E | H | R | A | L | L | T | R | 266 |
| T | M | N | A | E | D | E | K | R | D | A | E | H | R | A | L | L | T | H | |
| AAC | GGG | CAG | GCG | GGC | GGC | GGC | GGA | GGG | GGT | GGC | AGC | GCG | CAC | ACT | ACG | GAC | ACC | GCC | 855 |
| N | G | Q | A | G | G | G | G | G | G | G | S | A | H | T | T | D | T | A | 285 |
| N | G | Q | A | V | G | L | G | G | L | S | C | L | S | G | S | L | G | D | |
| TCA | TCC | ACG | GCG | GCA | GCG | GGC | GGC | GGC | GGC | TTC | CGC | AAC | GTC | TAC | GCG | GAG | GTG | CTG | 912 |
| S | S | T | A | A | A | G | G | G | G | F | R | N | V | Y | A | E | V | L | 304 |
| VRPRDPV | TC | AA | A | A | G | G | V | G | V | G | V | G | G | S | G | F | R | N | |
| CAC | TTC | CAG | TCC | ATG | TGC | TCG | TGC | CTG | TGG | TAC | AAG | AGC | CGC | GAG | AAG | CTG | CAG | TAC | 969 |
| H | F | Q | S | M | C | S | C | L | W | Y | K | S | R | E | K | L | Q | Y | 323 |
| H | F | Q | S | M | C | S | C | L | W | Y | K | S | R | E | K | L | Q | Y | |
| TCC | ATC | CCC | ATG | ATC | ATC | CCG | CGG | GAC | CTC | TCC | ACG | TCC | GAC | ACG | TGC | GTG | GAG | CAG | 1026 |
| S | I | P | M | I | I | P | R | D | L | S | T | S | D | T | C | V | E | Q | 342 |
| S | I | P | M | I | I | P | R | D | L | S | T | S | D | T | C | V | E | H | |
| AGC | CAC | TCG | TCG | CCG | GGA | GGG | GGC | GGC | CGC | TAC | AGC | GAC | ACG | CCC | TCG | CGA | CGC | TGC | 1083 |
| S | H | S | S | P | G | G | G | G | R | Y | S | D | T | P | S | R | R | C | 361 |
| S | H | S | S | P | G | G | G | G | R | Y | S | D | T | P | S | H | P | C | |
| CTG | TGC | AGC | GGG | GCG | CCA | CGC | TCC | GCC | ATC | AGC | TCG | GTG | TCC | ACG | GGT | CTG | CAC | AGC | 1140 |
| L | C | S | G | A | P | R | S | A | I | S | S | V | S | T | G | L | H | S | 380 |
| L | C | S | G | T | Q | R | S | A | I | S | S | V | S | T | G | L | H | S | |
| CTG | TCC | ACC | TTC | CGC | GGC | CTC | ATG | AAG | CGC | AGG | AGC | TCC | GTG | TGA | ctgccccgaggggacc | | | | 1200 |
| L | S | T | F | R | G | L | M | K | R | R | S | S | V | * | | | | | 395 |
| L | A | A | F | R | G | L | M | K | R | R | S | S | V | | | | | | |
| tggagcacctggggggcgggggcggggggacccctgctggggaggccaggagactgcccctgctgccttctgcccagtg | | | | | | | | | | | | | | | | | | | 1276 |
| ggaccccgacacacatccctcaccactctccccagcagccccccatccgactgtgcctgcttgaccagccggca | | | | | | | | | | | | | | | | | | | 1352 |
| ggaggccgggctctgaggacccctggggcccccatcgagccctgcaaattccgagaaatgtgaaacttggtgggg | | | | | | | | | | | | | | | | | | | 1428 |
| tcaggaggagaaaggcagaagctgggagcctcccttccctttgaaaatctaagaagctcccagtcctcagagaccct | | | | | | | | | | | | | | | | | | | 1504 |
| gctggtaccacacccacacttcggaggggacttcatgttccgtgtacgtttgcactctctattttatacctctgtcct | | | | | | | | | | | | | | | | | | | 1580 |
| gctaggtctccacacttcccttggttccaaaagccagggtgtctatgtccaagtcacccctactcagccccactcc | | | | | | | | | | | | | | | | | | | 1656 |
| ccttcctcatccccagctgtgtctcccaacctcccttcgtgtgttttgcagtgctttgagttatggagaaagt | | | | | | | | | | | | | | | | | | | 1732 |
| gaaaccagcagtccttaagctgggtccccagaaagcaggacagaaagaaggaggggacaggcaggcaggagg | | | | | | | | | | | | | | | | | | | 1808 |
| gcgagctgggaggcaggagggcggcctgtcagctctgcagaatgggtcgactggaggttcaagctaactggcctc | | | | | | | | | | | | | | | | | | | 1884 |
| cagccacattctcatagcaggttaggacttcagccttcagacactgccttagaatctggaacagaagacttcaga | | | | | | | | | | | | | | | | | | | 1960 |
| ctcaccataattgctgataattaccactcttaaaatttgctgagtgatttttagcctctgaaaactctatgctggc | | | | | | | | | | | | | | | | | | | 2036 |
| cactgattcctttgagctcacaaaacctacttaggtcatcagggcaggagttctcactcccattttacagatga | | | | | | | | | | | | | | | | | | | 2112 |
| gaatactgaggccctggacaggtgaagtgaccagagagcaaaaggcaaaagggtgggggctgggtgcagtggtcac | | | | | | | | | | | | | | | | | | | 2188 |
| acctgtattcccaacacttttgagggtgaggttgaggattgcttgagcccaggaattcgagaccagcctaggtg | | | | | | | | | | | | | | | | | | | 2264 |
| acatagtgagaccccatctctacaaaaataaaaaattaaccaggtgtggtggcacgtgcctgggagtcaccagca | | | | | | | | | | | | | | | | | | | 2340 |
| cttgggaggctgaggtgggaggattgtttgagcctgggaggtcgaggtctgtagtgagccctgattgcaccactgta | | | | | | | | | | | | | | | | | | | 2416 |
| ctccagcctgggtgacagggcaagaccctgtctcaaaaaaaaaaaaaaaaa | | | | | | | | | | | | | | | | | | | 2465 |

FIG. 8B

| | | |
|--------|-----|--|
| | 1 | -----MLQSLAGSSCVR-----LVERHRS--- |
| | 1 | MAAPDILDPKSAQAQNSKPRLSFSSKPTVLA SRVESDSA |
| | 1 | -----MKR-----Q-NVR----- |
| | | M1 |
| TWIK-1 | 20 | ----AWCFG-PLVLGYLLYLVFAGVVFSSVELPVEDLL |
| TREK-1 | 39 | INVMKWKTVSTIFLVVVLVYLITGAAVFKALEQPEISQ |
| TASK | 8 | -----TLALIVCTFTYLLVGAAVFDALSEPELIE |
| | | P1 |
| TWIK-1 | 53 | RQELRKLKRRFLEEHECLSEQOLEQFLGRVLEASNYGV |
| TREK-1 | 77 | RTTIVIQKQTEFLAQHACVNSTELDELQQIVAAINAGT |
| TASK | 38 | RQRELRQQLRARRYNLSQGG-YEELERVVLRLKPKHA |
| | | P2 |
| TWIK-1 | 91 | SVLSNASG-NWNWDFTSALFFASTVLSTLGYGHTVPLS |
| TREK-1 | 115 | IPLGNSSNQVSHWDLGSSFFFACTVITTIGEGNISPT |
| TASK | 75 | G-----VQ-WREAGSFVFAITVITTIGYGHAAPST |
| | | M2 |
| TWIK-1 | 128 | DGGKAFCIISVIGIPFTLLFLTAVVORITVHVTR--R |
| TREK-1 | 153 | EGGKIFCIYALLGIPLEGFLLAGVGDOLGTIFGKGIA |
| TASK | 104 | DGGKVFCEFYALLGIPLTLVMFOSLGERINTLVRY--- |
| | | M3 |
| TWIK-1 | 164 | PVLYFHIRVGFESKQVVAIVHAVLLGFVTVSCFFFIIPAA |
| TREK-1 | 191 | KVEDTFIKVNVSTQTKIRIISTTIFILFGCVLEVALPAV |
| TASK | 139 | LHRAKKGIGMRRADVSMANMVLIGFFSCISTLCITCAA |
| | | P2 |
| TWIK-1 | 202 | VFSVIEDDNFLESFYFCFISLSTIGLGDYVIGE-GYN |
| TREK-1 | 229 | IFKHIEG-NSALDAIYPLVITLTTIGFGDYVAG--GSD |
| TASK | 177 | AFSHYEH-WTFEQAAYVCFITLTTIGFGDYVALQKDQA |
| | | M4 |
| TWIK-1 | 239 | OKFRELYKIGITCYLLGLIAMLVLETFCELHELKKF |
| TREK-1 | 264 | IEYLDIFYKPVVWFILVGLAYFAAVLSMIGDWLRVSK |
| TASK | 214 | LQTQPQYVAFSFVYILTGLTVIGAFNLVVLRFMTMNA |
| | | P1 |
| TWIK-1 | 277 | RKMFYVKKDKD----- |
| TREK-1 | 302 | KTKEEVGEFR----- |
| TASK | 252 | EDEKRDAEHRALLTRNGQAGGGGGGSAHTTDTASSTA |
| | | P2 |
| TWIK-1 | 288 | -----EDQVHIIHDQLSFSSITDQAAGMK-- |
| TREK-1 | 312 | -----AHAAEWTA NVTAEEKETRRLSVEI-- |
| TASK | 290 | AAGGGGFRNVYA EVLHFQSMCSCLWYKSRREKLQYSIPM |
| | | P1 |
| TWIK-1 | 313 | ---EDQKQNEPFFVATQSSACVDGPANH----- |
| TREK-1 | 337 | ---YDKFORATSVKRKLSAELAGNHNQELTPCMRTCCL- |
| TASK | 328 | IIPRDLSTSDTEVEQSHSSPGGGGRYSDTPSRRCLCSG |
| | | P2 |
| TWIK-1 | 337 | ----- |
| TREK-1 | 371 | ----- |
| TASK | 366 | APRSAISSVSTGLHSLSTFRGLMKRRSSV |

FIG. 9A

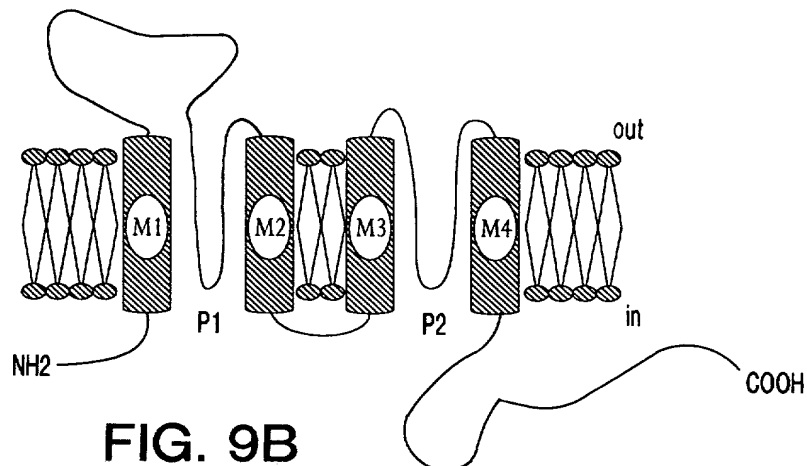


FIG. 9B

1201-CIP-DIV-00

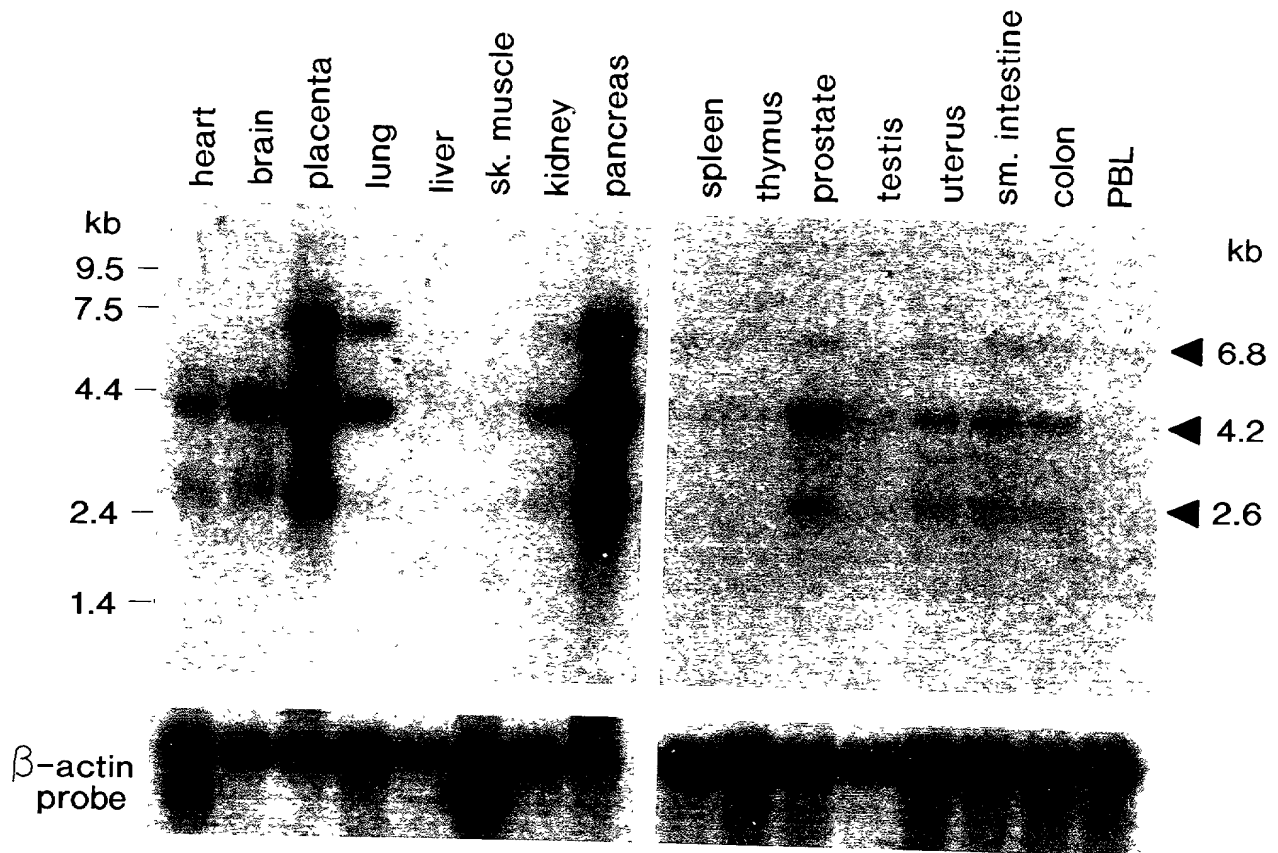


FIG. 10

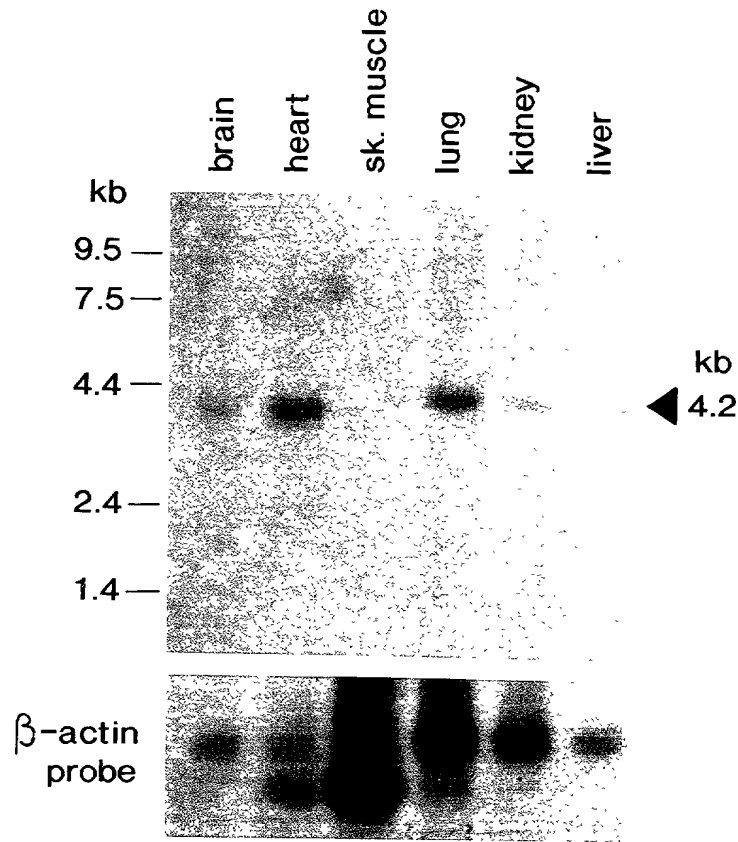


FIG. 11A

FIG. 11B

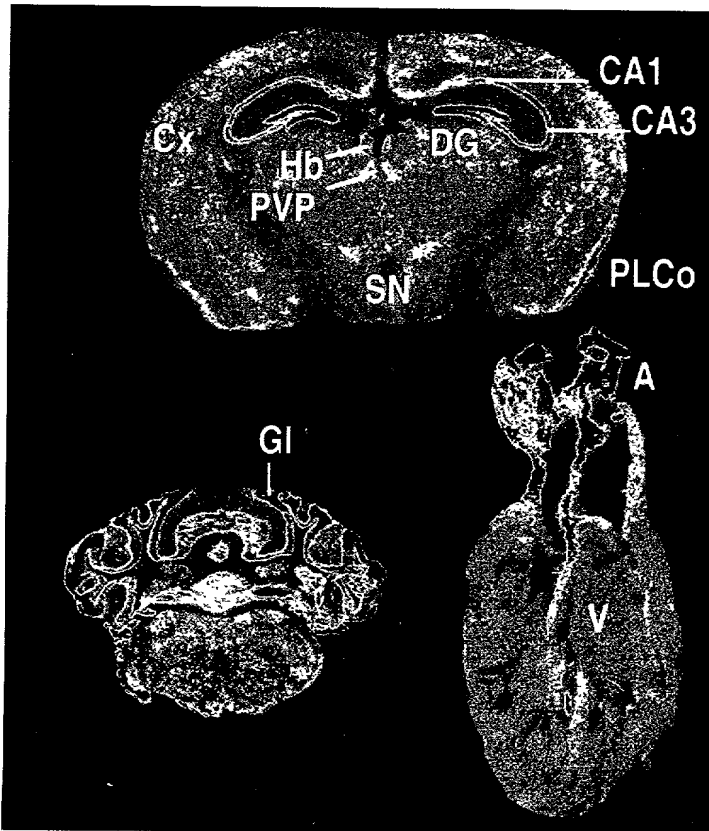


FIG. 11C

FIG. 11D

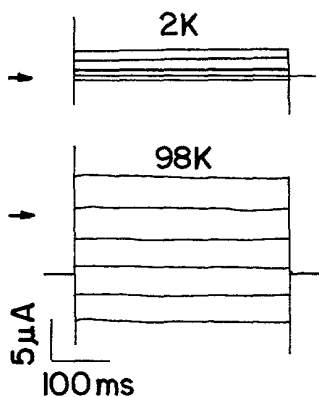


FIG. 12A

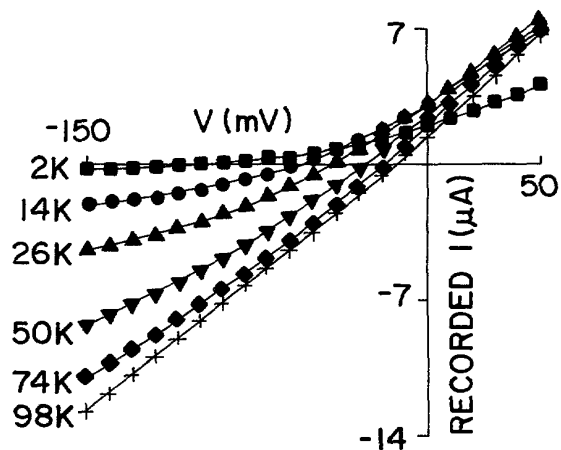


FIG. 12B

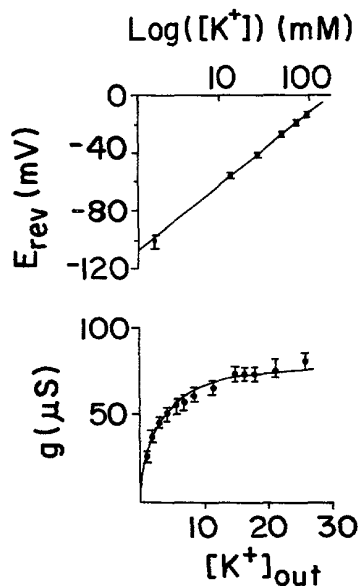


FIG. 12C

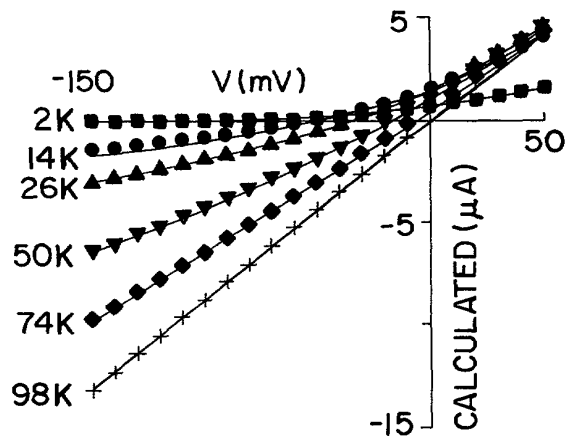


FIG. 12D

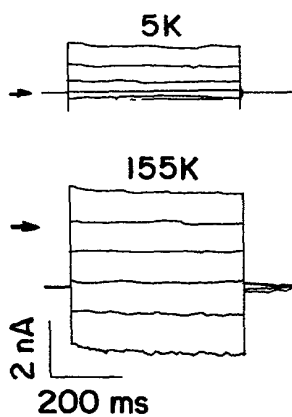


FIG. 12E

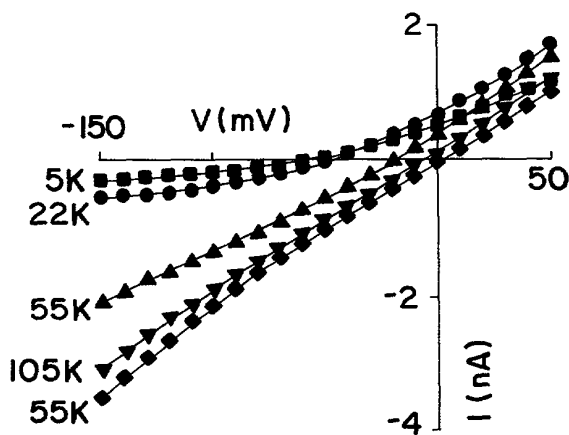


FIG. 12F

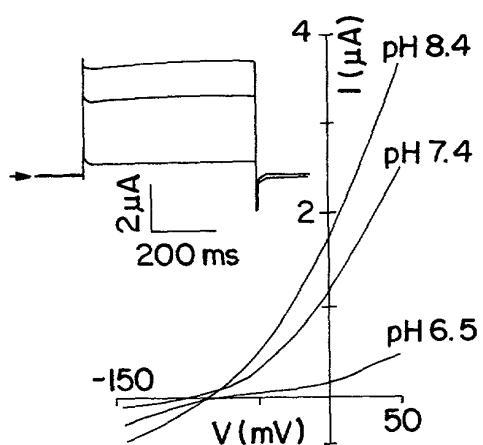


FIG. 13A

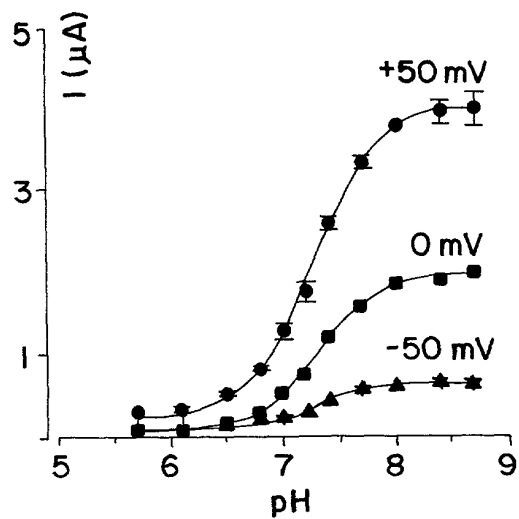


FIG. 13B

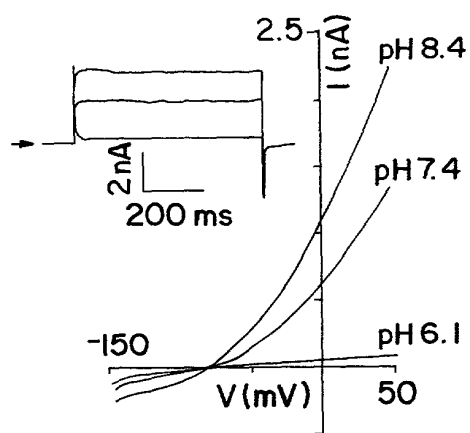


FIG. 13C

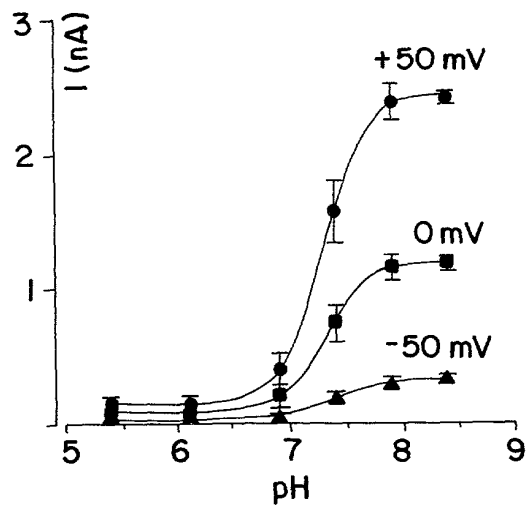


FIG. 13D